

## ABSTRACT

It is an object of this invention to provide a method for producing town gas, in which sulfur component is not contained in feed stock, so desulfurization facilities are unnecessary, and transport efficiency is higher, and extra energy is not consumed on the evaporation process of feed stock, and which is suitable for small or medium-sized businesses can carry out.

As a means to solve, dimethyl ether is used as feed stock. After evaporating dimethyl ether, the dimethyl ether is heated under the existence of steam within a heating furnace 33. The heated dimethyl ether is led into a tubular reforming reactor filled with catalyst for reforming. Dimethyl ether comes into contact with the catalyst within the reactor and reformed in gas containing carbon dioxide, carbon monoxide, hydrogen and methane mainly. Next, the reformed gas is led into a pressure-swinging adsorbing apparatus 37, so that carbon dioxide is separated from the reformed gas. And then the reformed gas is led into a methanation reactor 38, so that hydrogen, carbon monoxide and carbon dioxide, which are contained in the reformed gas, are methanized. Finally, the heating value of the reformed gas is controlled by adding carburant which is dimethyl ether so as to change into town gas.